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| 10/667,204      | 09/18/2003  | Rachel Yerushalmi-Rozen | 7640-X03-011        | 7170             |

27317 7590 01/23/2007  
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| EXAMINER |
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MCCRACKEN, DANIEL

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| ART UNIT | PAPER NUMBER |
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1754

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 01/23/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/667,204

Applicant(s)

YERUSHALMI-ROZEN ET AL.

Examiner

Daniel C. McCracken

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) 12-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1, 3-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1 and 3-20 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

### DETAILED ACTION

Citation to the Specification will be in the following format (S. #, ¶) where # denotes the page number and ¶ denotes the paragraph number. Citation to patent literature will be in the form (Inventor #, LL) where # is the column number and LL is the line number.

#### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### *Response to Arguments*

Applicant's arguments, see "Remarks", filed 11/07/2006, with respect to the rejection of Claims 1-11 under 35 USC 102(a) as being anticipated by "Nano Letters Reference" have been fully considered and are persuasive. The rejection of Claims 1-11 under 35 USC 102(a) as being anticipated by "Nano Letters Reference" has been withdrawn.

With respect to the rejection of Claims 1, 2, 7 and 8 under 35 U.S.102(b) as being anticipated by US 3,856,699 to Miyano, Claim 1 is reproduced below for purposes of illustration:

1. A method for the preparation of an aqueous suspension of carbon nanotubes, comprising adding to an aqueous medium, *prior to the addition of carbon nanotubes or thereafter*, a water-soluble polymeric material selected from polysaccharides and polypeptides, *thereby to separate the nanotubes into dispersed, essentially single tubes*.

(emphasis added). The only positively recited process step is "adding to an aqueous medium . . . a water-soluble polymeric material." The addition of carbon nanotubes can occur after, *i.e.* not in the process as claimed. With respect to the final limitation, this is a statement of intended use. Statements of intended use are not given patentable weight, and as such, all claims must be distinguished in terms of structure rather than function. *See In re Schreiber*, 128 F.3d 1473, 1477-78; 44 U.S.P.Q. 2d 1429, 1431-32 (Fed. Cir. 1997). Thus, all that is required by Claim 1 is the addition of a water-soluble polymeric material selected from polysaccharides and polypeptides to an aqueous solution. Viewed in light of this claim construction, and as stated in the first office action, Miyano discloses:

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In addition to water as the aqueous medium used in the instant invention, an aqueous solution of an organic salt or an inorganic salt; *an aqueous solution of* a colloid material, such as *gum arabic*, gelatin, polyvinyl alcohol, *the celluloses, and the like*, or a surface active agent; and an aqueous solution having dispersed therein a fine powder such as silica powder, kaolin powder, or a starch can be used.

(Miyano 2, 52-59) (emphasis added). Celluloses are polysaccharides. *See* Albert L. Lehninger, *Biochemistry*, 249 (2d ed., Worth Publishers 1975) ("Polysaccharides have two major biological functions, as a storage form of fuel and as structural elements. In the biosphere there is probably more carbohydrate than all other organic matter combined, thanks largely to the abundance in the plant world of two polymers of D-glucose, starch and *cellulose*." ) (emphasis added).<sup>1</sup> Claim 2 has been cancelled, rendering the rejection moot. As to Claims 7-8, Miyano explicitly discloses gum arabic. (Miyano 2, 55).

With respect to the rejection of Claims 1-11 under 35 U.S.C. 103(a) as being unpatentable over US 5,576,162 to Papadopoulos in view of US 3,852,076. to Grasko, the crux of Applicants' arguments center around process steps not explicitly included in Claim 1, what Applicants *intend* to do with their claimed invention, and how the cited references do not teach what Applicants intend to do. "All of the disclosures in a reference must be evaluated for what they fairly teach one of ordinary skill in the art.' The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." *In re Lemelson*, 158 USPQ 275, 277 (CCPA 1968).

Claims 12-20 were not treated, for reasons as set forth below.

#### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1, 3-11, drawn to a method for the preparation of an aqueous suspension, classified in class 423, subclass 445 B.

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<sup>1</sup> Multiple reference 35 USC 102 rejections are permissible to explain the meaning of a term. *See* MPEP 2131.01 *et seq.* While one of ordinary skill in the art would recognize cellulose as a polysaccharide, the Lehninger reference is provided for Applicants benefit and understanding.

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- II. Claims 12 and 16-17 drawn to a semiconductor manufacturing, classified in class 438, subclass 478.
- III. Claim 13, drawn to a method of growing silica crystals, classified in class 117, subclass 939.
- IV. Claim 14-15, drawn to a method of making polymeric matrices, classified in class 408, subclass 411.1.
- V. Claim 18-20, drawn to a coating technique, classified in class 427, subclass 903.

Newly submitted claims 12-20 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination II has separate utility such as a semiconductor. See MPEP § 806.05(d).

Inventions I and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination III has separate utility such as growing silica crystals. See MPEP § 806.05(d).

Inventions I and IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination IV has separate utility such as a composite reinforcer. See MPEP § 806.05(d).

Inventions I and V are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination I has separate utility such as performing biochemical reactions. See MPEP § 806.05(d).

Inventions II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions have different effects, *i.e.* making a semiconductor and growing crystals.

Inventions II and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions have different effects, *i.e.* making a semiconductor and making a composite.

Inventions II and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions have different effects, *i.e.* making a semiconductor and a coating process.

Inventions III and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions have different effects, *i.e.* growing crystals and making a composite.

Inventions III and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions have different effects, *i.e.* growing crystals and a coating process.

Inventions IV and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions have different effects, *i.e.* making a composite and a coating process.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 12-20 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC §§ 102-103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by US 3,856,699 to Miyano et al. for reasons of record.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,576,162 to Papadopoulos in view of US 3,852,076 to Grasko for reasons of record.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel C. McCracken whose telephone number is (571) 272-6537. The examiner can normally be reached on Monday through Friday, 9 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Daniel C. McCracken

DCM



**STUART L. HENDRICKSON**  
**PRIMARY EXAMINER**